

## **CLAIM AMENDMENTS**

### **Claim Amendment Summary**

#### **Claims pending**

- Before this Amendment: Claims 1-40.
- After this Amendment: Claims 1-40

**Non-Elected, Canceled, or Withdrawn claims:** None

**Amended claims:** 1-29, 33-38

**New claims:** None

---

### **Claims:**

**1. (Currently Amended)** One or more computer readable storage media having stored thereon a plurality of instructions that implement a schema, the schema comprising: a schema comprising:

at least one definition that describes of entities to be implemented in a distributed-computing distributed-computing system; and

at least one relationship that identifies links between the entities to be implemented in the distributed-computing distributed-computing system, wherein such that the schema is used by a development tool and a deployment tool to implement the definition and the relationship.

2. **(Currently Amended)** The ~~schema—one or more computer~~  
readable storage media of claim 1 wherein the schema is further used by a  
management tool.

3. **(Currently Amended)** The ~~schema—one or more computer~~  
readable storage media of claim 1 wherein the schema allows a user of the  
development tool to identify desired operational intentions.

4. **(Currently Amended)** The ~~schema—one or more computer~~  
readable storage media of claim 1 wherein the at least one definition includes a  
resource definition, a system definition and an endpoint definition.

5. **(Currently Amended)** The ~~schema—one or more computer~~  
readable storage media of claim 1 wherein the at least one definition includes a  
resource definition that ~~specifies~~ describes a an application runtime behavior  
associated with a system.

6. **(Currently Amended)** The ~~schema—one or more computer~~  
readable storage media of claim 1 wherein the at least one definition includes a  
system definition that describes a portion of an application deployed in the  
~~distributed-computing-distributed-computing~~ system.

**7. (Currently Amended)** The ~~schema—one or more computer~~  
readable storage media of claim 1 wherein the at least one definition includes an endpoint definition that describes communication information associated with a system.

**8. (Currently Amended)** The ~~schema—one or more computer~~  
readable storage media of claim 1 wherein the at least one relationship includes a containment relationship, a delegation relationship, a connections relationship, a hosting relationship and a reference relationship.

**9. (Currently Amended)** The ~~schema—one or more computer~~  
readable storage media of claim 1 wherein the at least one relationship includes a containment relationship that describes the ability of a particular definition to contain members of other definitions.

**10. (Currently Amended)** The ~~schema—one or more computer~~  
readable storage media of claim 1 wherein the at least one relationship includes a delegation relationship that exposes members contained in a particular definition.

**11. (Currently Amended)** The ~~schema—one or more computer~~  
~~readable storage media~~ of claim 1 wherein the at least one relationship includes  
a connections relationship that identifies available communication interactions  
between a plurality of definitions.

**12. (Currently Amended)** The ~~schema—one or more computer~~  
~~readable storage media~~ of claim 1 wherein the at least one relationship includes  
a hosting relationship that describes dependencies between a plurality of  
definitions.

**13. (Currently Amended)** The ~~schema—one or more computer~~  
~~readable storage media~~ of claim 1 wherein the at least one relationship includes  
a reference relationship that identifies ordering relationships between a plurality  
of definitions.

**14. (Currently Amended)** The ~~schema—one or more computer~~  
~~readable storage media~~ of claim 1 further comprising an abstract portion  
associated with templates for ~~distributed-applications~~ distributed-applications and  
a concrete portion associated with particular implementations of ~~distributed-~~  
~~applications~~ distributed-applications.

**15. (Currently Amended)** The ~~schema—one or more computer~~  
readable storage media of claim 1 further comprising a plurality of relationships,  
wherein the schema provides for the communication of settings across the  
plurality of relationships.

**16. (Currently Amended)** The ~~schema—one or more computer~~  
readable storage media of claim 1 further comprising a plurality of relationships,  
wherein the schema provides for the communication of application runtime  
behavioral information across the plurality of relationships.

**17. (Currently Amended)** One or more computer readable storage  
media having stored thereon a plurality of instructions that implement a schema,  
the schema comprising:

at least one system definition ~~that describes of~~ a portion of an application  
associated with a ~~distributed-computing—distributed-computing~~ system;

at least one resource definition that specifies describes a application  
runtime behavior associated with the system; and

at least one endpoint definition ~~that—describes of~~ communication  
information associated with the system.

**18. (Currently Amended)** One or more computer readable storage media as recited in claim 17 wherein the schema further includes at least one relationship that identifies links between entities in the distributed-computing distributed-computing system.

**19. (Currently Amended)** One or more computer readable storage media as recited in claim 17 wherein the schema further includes a containment relationship that describes the ability of a particular definition to contain members of other definitions.

**20. (Currently Amended)** One or more computer readable storage media as recited in claim 17 wherein the schema further includes a communication relationship that identifies available communication interactions between a plurality of definitions.

**21. (Currently Amended)** One or more computer readable storage media as recited in claim 17 wherein the schema is used by any of: a development tool, a deployment tool, or a management tool.

**22. (Currently Amended)** One or more computer readable storage media as recited in claim 17 wherein the schema models a target system on which the application will be installed.

**23. (Currently Amended)** One or more computer readable storage media having stored thereon a plurality of instructions that when executed by a computer implement a design tool, the design tool comprising:

a system definition model to enable defining abstractly~~abstract~~ the specifications ~~description of distributed-computing~~ distributed-computing systems and distributed-applications ~~distributed-applications~~; and

a schema to dictate how functional operations within the system definition model are to be specified.

**24. (Currently Amended)** The design tool of claim 23 wherein the design tool is a distributed-application ~~distributed-application~~ development tool.

**25. (Currently Amended)** The design tool of claim 23 wherein the design tool is a distributed-application ~~distributed-application~~ deployment tool.

**26. (Currently Amended)** The design tool of claim 23 wherein the design tool is a distributed-application ~~distributed-application~~ management tool.

**27. (Currently Amended)** The design tool of claim 23 wherein the distributed-applications ~~distributed-applications~~ are scale-invariant.

**28. (Currently Amended)** A data structure stored on one or more computer-readable media that is instantiated in accordance with a schema, the schema comprising:

at least one system definition of that ~~describes~~ a component of a distributed-application ~~distributed-application~~;

at least one resource definition of that ~~describes~~ a describes a application ~~runtime~~ behavior associated with the component;

at least one endpoint definition of that ~~describes~~ communication information associated with the component;

at least one containment relationship specifiing ~~that describes the~~ an ability of a particular definition to contain members of other definitions;

at least one delegation relationship that exposes members contained in the particular definition;

at least one communication relationship that specifies ~~identifies~~ available communication interactions between a plurality of definitions;



at least one hosting relationship that specifies describes dependencies between the plurality of definitions; and

at least one reference relationship that specifies identifies ordering relationships between the plurality of definitions.

**29. (Currently Amended)** The data structure of claim 28 wherein the distributed-application ~~distributed-application~~ is scale-invariant.

**30. (Original)** The data structure of claim 28 wherein the schema is accessible by an application development tool and an application deployment tool.

**31. (Original)** The data structure of claim 28 wherein the schema is accessible by an application deployment tool and an application management tool.

**32. (Original)** The data structure of claim 28 wherein the schema is accessible by:

- an application development tool;
- an application deployment tool; and
- an application management tool.

**33. (Currently Amended)** A method comprising:

creating a data structure in accordance with a schema, the schema defining at least one definition ~~that describes~~ of entities in a distributed-computing ~~distributed-computing~~ system, at least one containment relationship specifying ~~that describes~~ the ability of a particular definition to contain members of other definitions, at least one delegation relationship that exposes members contained in the particular definition, at least one communication relationship that specifies ~~identifies~~ available communication interactions between a plurality of definitions, at least one hosting relationship that specifies ~~describes~~ dependencies between the plurality of definitions, at least one reference relationship that specifies ~~identifies~~ ordering relationships between the plurality of definitions; and

populating the data structure.

**34. (Currently Amended)** One or more computer readable storage media having stored thereon a plurality of instructions that, when executed by a processor, cause the ~~instructions-processor to perform a method, the method~~ comprising:

~~load-loading~~ a definition that ~~describes~~ of entities in a distributed-computing ~~distributed-computing~~ system; and

~~load-loading~~ a relationship that specifies ~~identifies~~ communication links between the entities in the distributed-computing ~~distributed-computing~~ system, wherein such that the definition and the relationship data ~~is-are~~ are used to develop during development and deployment of deploy the distributed-computing ~~distributed-computing~~ system.

**35. (Currently Amended)** The computer readable storage media of claim 34 wherein the definition and the relationship data ~~is-are~~ are further used during management of the distributed-computing ~~distributed-computing~~ system.

**36. (Currently Amended)** The computer readable storage media of claim 34 wherein the definition includes a resource definition, a system definition and an endpoint definition.

**37. (Currently Amended)** The computer readable storage media of claim 34 wherein the relationship includes a containment relationship, a delegation relationship, a communication relationship, a hosting relationship and a reference relationship.

**38. (Currently Amended)** A method comprising:

loading a definition of that describes entities in a distributed-computing ~~distributed-computing~~ system; and

loading a relationship that specifies ~~identifies~~ communication links between the entities in the distributed-computing ~~distributed-computing~~ system, wherein such that the definition and the relationship data ~~is~~ are used during development, deployment and management of the distributed-computing ~~distributed-computing~~ system.

**39. (Original)** The method of claim 38 wherein the definition includes a resource definition, a system definition and an endpoint definition.

**40. (Original)** The method of claim 38 wherein the relationship includes a containment relationship, a delegation relationship, a communication relationship, a hosting relationship and a reference relationship.